



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/591,402

11/01/2006

Zoltan Horvath

9007-1022

9692

466 7590 05/03/2011

YOUNG & THOMPSON  
209 Madison Street  
Suite 500  
Alexandria, VA 22314

EXAMINER

YANG, QIAN

ART UNIT

PAPER NUMBER

2625

NOTIFICATION DATE

DELIVERY MODE

05/03/2011

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

DocketingDept@young-thompson.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/591,402	<b>Applicant(s)</b> HORVATH ET AL.	
	<b>Examiner</b> QIAN YANG	<b>Art Unit</b> 2625	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2011.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-8,10,11,13-15 and 17-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-8,10,11,13-15 and 17-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Amendment*

1. Applicant's amendment filed on April 13, 2011 has been entered. No claims have been amended. Claims 2, 9, 12 and 16 have been canceled. Claims 21 – 23 have been added. Claims 1, 3 – 8, 10, 11, 13 – 15 and 17 – 23 are still pending in this application, with claims 1, 11 and 15 being independent.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3 – 7, 11, 13 – 15 and 17 – 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alderton (US Patent 3,635,557) in view of Bock (US Patent 5,012,275).

Regarding claim 1, Alderton discloses a method for imaging a primarily two-dimensional target (T) (**method for photographically copying book pages**), comprising:  
matching at least one optical unit (M) (**#14 mirror and prism #12 in Figure**) adapted for influencing a direction of rays of light falling onto the target (T);  
pressing down a surface of the target (T) by the at least one optical unit (M) to gain a flat surface for mapping (**side #18 of prism #12 pressed against #30 in Figure**);

Art Unit: 2625

illuminating the target (T) by applying a light source (L) (**light source #17 in Figure**)

providing homogenous diffused light (**col. 2, lines 55 – 60**);

directing a means for recording optics (**#28**) to the optical unit (M) (**#14 and #12 in Figure**);

mapping points of the target (T) reaching the means for recording optics through the optical unit (M) by projecting rays originating from points of the target (T) at right angles to the target (T) through the optical unit (M) to a means for sensing of the means for recording optics in the whole range of an optical angle of the means for recording optics (**col. 2, line 67 to col. 3, line 6**); and

displacing the means of recording optics (**#28 in Figure**) in a receding manner from a plane of the target (T).

However, Alderton fails to explicitly disclose wherein the method eliminating reflections and ghost images deteriorating the resulting image by turning away the means for recording optics at a predetermined angle  $\alpha$  in a curved course compared to an optical axis (OA) originating from a centre of the target (T) while tilting the optical unit (M) half to an extent of said displacement with an angle  $\alpha/2$  of the means for recording optics.

However, in a similar field of endeavor Bock discloses a method for copying bound books. In addition, Bock discloses the method wherein turning away the means for recording optics at a predetermined angle  $\alpha$  in a curved course compared to an optical axis (OA) originating from a centre of the target (T) while tilting the optical unit half to an extent of said displacement with an angle  $\alpha/2$  of the optical recording means

Art Unit: 2625

(**col. 3, lines 31 – 35**). The purpose of doing this is to make book copying fully enabled and satisfactory (**col. 4, lines 6 – 8; col. 1, lines 19 – 26; col. 3, lines 28 – 35**); and to eliminate the distortions (**This is evidenced by Xu et al. (US Patent Application Publication 2002/0085248) that without turning the recording optics, the scanned image is distorted in the center book bound part (Fig. 1)**)).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Alderton, and rotate an angle for the means for recording optics and mirror, as taught by Bock. The motivation for doing this is that to make book copying fully enabled, as discussed by Bock (**col. 4, lines 6 – 8**).

Regarding claim 3 (depends on claim 1), Bock discloses the method further comprising choosing the value of the angle  $\alpha$  exceeding at least the half of the optical angle of the means for recording optics (**From Fig. 4 of current invention, the half of the optical angle of the optical recording means is about 10 degree. Bock discloses the rotating angle  $\theta$  can exceed 10 degree in the book binding area**).

Regarding claim 4 (depends on claim 1), Alderton discloses the method further comprising a mirror (M) as the optical unit (**#14 mirror in Figure**).

Regarding claim 5 (depends on claim 4), Alderton discloses the method further comprising a surface mirror (M) as the optical unit (**#14 mirror in Figure**).

Regarding claim 6 (depends on claim 1), Alderton discloses the method further comprising a wedge shaped optical element composed of a pressing-down glass plate (G) and a surface mirror (M) as the optical unit (**#14 mirror and the glass prism #12 in Figure**).

Regarding claim 7 (depends on claim 6), Bock discloses the method further comprising using an optical element with an adjustable front rake (**col. 3, lines 26 – 29**).

Regarding claim 11, Alderton discloses an arrangement for imaging a primarily two-dimensional target (T), comprising:

at least one optical unit (M) adapted for influencing the direction of rays of light falling onto it (**#14 mirror and prism #12 in Figure**),

the optical unit (M) being configured to press down a surface of the target (T) to obtain a flat surface for mapping (**side #18 of prism #12 pressed against #30 in Figure**);

a light source (L) (**light source #17 in Figure**) illuminating the target (T), the light source (L) being configured to provide homogenous diffused light (**col. 2, lines 55 – 60**);

a means for recording optics (**#28 in Figure**) directed to the optical unit while being directed to the optical unit (**col. 2, line 67 to col. 3, line 6**) the means for recording optics is displaced in a receding manner from the plane of the target (T) (**#28 in**

Art Unit: 2625

**Figure**), and originally running at an angle of  $45^\circ$  to the surface of the target (T) (**the angle between #28 and #20 in the Figure is 45 degree**); and displaced the means of recording optics (**#28 in Figure**) in a receding manner from a plane of the target (T).

However, Alderton fails to explicitly disclose wherein the means for recording optics is turned away at a predetermined angle  $\alpha$  in a curved course compared to the optical axis (OA) originating from the centre of the target (T), while the optical unit is tilted to an extent which is increased by a half of the displacement angle with an angle  $\alpha/2$  of the means for recording optics, such that deleterious reflections and ghost images are eliminated.

However, in a similar field of endeavor Bock discloses a system for copying bound books. In addition, Bock discloses the means for recording optics is turned away at a predetermined angle  $\alpha$  in a curved course compared to the optical axis (OA) originating from the centre of the target (T), while the optical unit is tilted to an extent which is increased by a half of the displacement angle with an angle  $\alpha/2$  of the means for recording optics (**col. 3, lines 31 – 35**). The purpose of doing this is to make book copying fully enabled and satisfactory (**col. 4, lines 6 – 8; col. 1, lines 19 – 26; col. 3, lines 28 – 35**); and to eliminate the distortions (**This is evidenced by Xu et al. (US Patent Application Publication 2002/0085248) that without turning the recording optics, the scanned image is distorted in the center book bound part (Fig. 1)**)).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Alderton, and rotate an angle for

Art Unit: 2625

optical recording means and mirror, as taught by Bock. The motivation for doing this is that to make book copying fully enabled, as discussed by Bock (**col. 4, lines 6 – 8**).

Regarding claim 13 (depends on claim 11), Alderton discloses the method further comprising a mirror (M) as the optical unit (**#14 mirror in Figure**).

Regarding claim 14 (depends on claim 3), Alderton discloses the method further comprising a mirror (M) as the optical unit (**#14 mirror in Figure**).

Regarding claim 15, Alderton discloses a method for imaging a primarily two-dimensional target (T), comprising:

matching at least one optical unit (M) adapted for influencing the direction of rays of light falling onto the target (T) (**#14 mirror and side #16 of the prism #12 in Figure**);

pressing down a surface of the target (T) by the at least one optical unit (M) to gain a flat surface for mapping (**side #18 of prism #12 pressed against #30 in Figure**);

illuminating the target (T) with homogenous diffused light while directing an optical recording device to the optical unit (M) (**#17 in Figure, col. 2, lines 55 – 60**);

mapping the points of the target (T) reaching the optical recording device through the optical unit by projecting rays originating from pixels of the target (T) at right angles to the target (T) through the optical unit (M) to a sensor of the optical recording device in the whole range of the optical angle of the optical recording device (**col. 2, line 67 to col. 3, line 6**); and



displacing the optical recording device (**#28 in Figure**) in a receding manner from a plane of the target (T).

However, Alderton fails to explicitly disclose wherein the method wherein eliminating reflections and ghost images deteriorating the resulting image by turning away the optical recording device at a predetermined angle  $\alpha$  in a curved course compared to the optical axis (OA) originating from a centre of the target (T) while tilting the optical unit half to an extent of said displacement with an angle  $\alpha/2$  of the optical recording device.

However, in a similar field of endeavor Bock discloses a method for copying bound books. In addition, Bock discloses the method wherein turning away the optical recording device at a predetermined angle  $\alpha$  in a curved course compared to the optical axis (OA) originating from a centre of the target (T) while tilting the optical unit half to an extent of said displacement with an angle  $\alpha/2$  of the optical recording device (**col. 3, lines 31 – 35**). The purpose of doing this is to make book copying fully enabled and satisfactory (**col. 4, lines 6 – 8; col. 1, lines 19 – 26; col. 3, lines 28 – 35**); and to eliminate the distortions (**This is evidenced by Xu et al. (US Patent Application Publication 2002/0085248) that without turning the recording optics, the scanned image is distorted in the center book bound part (Fig. 1)**)).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Alderton, and rotate an angle for the means for recording optics and mirror, as taught by Bock. The motivation for doing this is to make book copying fully enabled, as discussed by Bock (**col. 4, lines 6 – 8**).

Regarding claim 17 (depends on claim 15), Bock discloses the method further comprising choosing the value of the angle  $\alpha$  exceeding at least the half of the optical angle of the optical recording device (**From Fig. 4 of current invention, the half of the optical angle of the optical recording means is about 10 degree. Bock discloses the rotating angle  $\theta$  can exceed 10 degree in the book binding area**).

Regarding claim 18 (depends on claim 15), Alderton discloses the method further comprising a mirror (M) as the optical unit (**#14 mirror in Figure**).

Regarding claim 19 (depends on claim 15), Alderton discloses the method further comprising a surface mirror (M) as the optical unit (**#14 mirror in Figure**).

Regarding claim 20 (depends on claim 1), Alderton discloses the method wherein the optical unit is wedge shaped and composed of a pressing-down glass plate (G) and a surface mirror (M) (**#14 mirror and the glass prism #12 in Figure**).

Regarding claim 21 (depends on claim 1), Alderton discloses the method wherein the two-dimensional target (T) is a book opened at an angle of no greater than  $50^\circ$  (**#20 in Figure, also col. 2, lines 1 – 6, 45 degree**), or the two-dimensional target (T) is a book configured so that two pages can be photographed without the book being moved.

Art Unit: 2625

Regarding claims 22 and 23, claims 22 and 23 are the inherent variation of claim 21, thus they are interpreted and rejected for the reasons set forth above in the rejection of claim 21.

4. Claims 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alderton in view of Bock, and in further view of Wu et al. (US Patent 5,847,846), hereinafter referred as Wu.

Regarding claim 8 (depends on claim 1), Bock discloses that the mirror can be tilted (**col. 3, lines 31 – 35**).

However, Alderton in view of Bock fails to explicitly disclose the method further comprising scanning both pages of the opened book (B) used as the target (T) consecutively by a mirror (M) embedded into a wedge-shaped element, but without removing the wedge-shaped element from between the glass plates (G) constituting its boundaries.

However, in a similar field of endeavor Wu discloses a method for copying bound books. In addition, Wu discloses the method scanning both pages of the opened book used as the target consecutively by a mirror (M) embedded a the wedge-shaped element (**Fig. 3, #14**), but without removing the wedge-shaped element from between the glass plates (G) constituting its boundaries (**col. 3, lines 27 - 48**).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Alderton in view of Bock, and

Art Unit: 2625

scanning both pages of the opened book used as the target consecutively by a mirror embedded into a wedge-shaped element, but without removing the wedge-shaped element from between the glass plates constituting its boundaries, as taught by Wu. The motivation for doing this is to sequentially record opposing pages of bound document positioned thereon using a single image station, as discussed by Wu (**in abstract**).

Regarding claim 10 (depends on claim 1), Alderton in view of Bock fails to explicitly disclose the method further comprising applying a light source (L) assembled of several discrete light sources.

However, in a similar field of endeavor Wu discloses a method for copying bound books. In addition, Wu discloses the method characterized by applying a light source (L) assembled of several discrete light sources (**Fig. 1, #23 and #25**).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Alderton in view of Bock, and applying a light source (L) assembled of several discrete light sources, as taught by Wu. The motivation for doing this is that the both sides of book pages can be properly illuminated and calibrated, as disclosed by Wu (**col. 6, lines 37 – 41**).

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 1, 3 – 8, 10, 11, 13 – 15 and 17 – 20 have been considered.

### Claim Rejections

Regarding claims 1, 11 and 15, the applicant alleges: "In comparison, the arrangement of ALDERTON (reproduced below), without turning, could produce harmful reflections, and ALDERTON does not in the least deal with this problem. ALDERTON thus neither discloses nor infers any solution to the elimination of such reflections and ghost images. In ALDERTON a prism 12 is utilized, the prism having a surface facie 22 on which the page 18 to be copied rests (col. 2, lines 54-56). This prism is  $45^0$ - $45^0$  (column 2, line 40) which indicates an inordinate bulk inimical to the reduced book openings favored by the present invention.

In contrast, the optical unit (M) of the present invention is a mirror (see claims 4, 5, 13, 14, 18 and 19) that is capable of the  $\theta/2$  movement of the present invention."

**The Examiner agrees that ALDERTON does not teach a solution to the elimination of such reflections and ghost images.**

**However, BOCK teaches "(b)ecause of the tilted nature of lens 86, light from the binding areas is transmitted and book copying fully enabled" (col. 4, lines 6 – 8). This is to say without turning away an angle for lens or mirror, the binding areas can not be transmitted and book copying is not fully enabled. This is evidenced by Xu et al. (US Patent Application Publication 2002/0085248) that without turning the recording optics, the scanned image is distorted in the center book bounding area (Fig. 1).**

Art Unit: 2625

**Therefore, BOCK teaches eliminating distortion or noise image by turning away an angle for lens or mirror.**

The applicant further alleges: "Similarly, BOCK does not contain any teaching or inference: 1) to eliminate the formation of reflections and ghost images arising in scanning processes with known book scanners, and 2) how this eliminating is put into practice. Consider, for example, Figure 3 of BOCK reproduced below.

As can be seen, the technology of BOCK is for a photocopier which would stress and damage sensitive books, unlike the present invention. Nonetheless, the Office Action refers to Col. 3, lines 31-35 of BOCK, which states:

Briefly, lens 50 is rotated through a small angle  $\theta$  mirror 42 is rotated by an angle  $\theta/2$  to reflect light from the interior of binding are 60. Minor 51 is rotated through an angle  $\theta/2$  to maintain required perpendicularity at the surface of belt 52. 35

However, the angle  $\theta$  of the present invention is in relationship to the optical unit (M) which is in contact with the book. In BOCK the feature corresponding to (M) is the plate glass surface of the copier, which is fixed, and there cannot be any adjustment of the angle  $\theta$  by this fixed surface. XU et al. (US 2002/0085248) used as evidence for distortion in the center of the book, does not address this deficiency of BOCK."

**The invention of Bock is 1) to eliminate the formation of distortion [ghost image] scanned in book binding area [this can be evidenced by Xu et al.], by 2) turning an angle for both lens and mirror.**

**In optics, by adjusting relative elements, the same effect can be achieved. At this point, the feature corresponding to the optical unit (M) is the mirror 42 of Bock which is turned of an angle of  $\theta/2$ .**

**Therefore, ALDERTON in view of BOCK reads on the claimed limitation of claim 1 (similar as claims 11 and 15).**

Regarding the rest of claims, the Applicant does not argue about the rest of claims.

### ***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to QIAN YANG whose telephone number is (571)270-7239. The examiner can normally be reached on Monday-Friday 8:00-16:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benny Tieu can be reached on 5712727490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/QIAN YANG/  
Examiner, Art Unit 2625

/Benny Q Tieu/  
Supervisory Patent Examiner, Art Unit 2625